

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	5413399
<b>Application Number:</b>	09843919
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	9911
<b>Title of Invention:</b>	Resin molded article having a spring structure and method of producing the resin molded article
<b>First Named Inventor/Applicant Name:</b>	Sadao Nishibori
<b>Correspondence Address:</b>	David E. Dougherty DENISON, SCHULTZ, DOUGHERTY & MacDonald 1727 King Street, Suite 105 - Alexandria VA 22314 US 7038379600 -
<b>Filer:</b>	David E Dougherty/Beth Murphy
<b>Filer Authorized By:</b>	David E Dougherty
<b>Attorney Docket Number:</b>	DED-3170-3
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<b>Application Type:</b>	Utility under 35 USC 111(a)

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EXHIBIT A

RAM confirmation Number	1321
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### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		Petition.pdf	462902 <small>123cd51ecce2433a948b789f5f9a02cd33da45</small>	yes	14
<b>Multipart Description/PDF files in .zip description</b>					
	<b>Document Description</b>		<b>Start</b>		<b>End</b>
	Petition for review by the Office of Petitions.		1		2
	Amendment After Final		3		14
<b>Warnings:</b>					
<b>Information:</b>					
2	Fee Worksheet (PTO-875)	fee-info.pdf	30044 <small>4b272b4f411f654894587cc5032512859c1d8b</small>	no	2

### Warnings:

### Information:

**Total Files Size (in bytes):** 492946

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### New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

### National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

### New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	09843919			
<b>Filing Date:</b>	30-Apr-2001			
<b>Title of Invention:</b>	Resin molded article having a spring structure and method of producing the resin molded article			
<b>First Named Inventor/Applicant Name:</b>	Sadao Nishibori			
<b>Filer:</b>	David E Dougherty/Beth Murphy			
<b>Attorney Docket Number:</b>	DED-3170-3			
Filed as Small Entity				
<b>Utility under 35 USC 111(a) Filing Fees</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
Petition-revive unintent. abandoned appl	2453	1	810	810
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				810

**PETITION FOR REVIVAL ON AN APPLICATION FOR PATENT ABANDONED  
UNINTENTIONALLY UNDER 37 CFR 1.137(b)**

Docket Number (Optional)

**3170D-0003**First named inventor: **Sadao Nishibori**Application No. **09/843,919**

Art Unit: 1771

Filed: **April 30, 2001**

Examiner: Jeremy R. Pierce

Title: **RESIN MOLDED ARTICLE HAVING A SPRING STRUCTURE AND METHOD OF  
PRODUCING THE RESIN MOLDED ARTICLE**Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

The above-identified application became abandoned for failure to file a timely and proper reply to a notice or action by the United States Patent and Trademark Office. The due date of abandonment is the day after the expiration date of the period set for reply in the Office notice or action plus extension of time actually obtained.

**APPLICANT HEREBY PETITIONS FOR REVIVAL OF THIS APPLICATION**

NOTE: A grantable petition requires the following items:

- (1) Petition fee;
- (2) Reply and/or issue fee
- (3) Terminal disclaimer with disclaimer fee -- required for all utility and plant applications filed before June 8, 1995; and for all design applications; and
- (4) Statement that the delay entire delay was unintentional.

## 1. Petition fee

☒ Small entity-fee \$ 810.00 (37 CFR 1.17(m)). Applicant claims small entity status. See 37 CFR 1.27.☐ Other than small entity - fee \$ 1,620.00 (37 CFR 1.17(m))

## 2. Reply and/or fee

## A. The reply and/or fee to the above-noted Office action in

The form of Amendment (Identify type of reply)

- ☐ has been filed previously on \_\_\_\_\_
- ☒ is enclosed herewith.

## B. The issue fee of \$ \_\_\_\_\_

- ☐ has been filed previously on \_\_\_\_\_
- ☐ is enclosed herewith.

[Page 1 of 2]

## 3. Terminal disclaimer with disclaimer fee

- ☐ Since this utility/plant application was filed on or after June 8, 1995, no terminal disclaimer is required.
- ☐ A terminal disclaimer (and disclaimer fee (37 CFR 1.20(d)) of \$ \_\_\_\_\_ for a small entity or \$ \_\_\_\_\_ for other than a small entity) disclaiming the required period of time is enclosed herewith (see PTO/SB/63).

## 4. STATEMENT: The entire delay in filing the required reply from the due date for the required reply until the filing of a grantable petition under 37 CFR 1.137(b) was unintentional. [NOTE: The United States Patent and Trademark Office may require additional information if there is a question as to whether either the abandonment or delay in filing a petition under 37 CFR 1.137(b) was unintentional (MPEP 711.03(c), subsections (III)(C) and (D))].

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\_\_\_\_\_  
Date

  
Signature

\_\_\_\_\_  
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Address

- Enclosures: ☒ Fee Payment (Fees are to be charged to a credit card. A credit card information and authorization is enclosed)
- ☒ Reply
- ☐ Terminal Disclaimer
- ☐ Additional sheets containing statements establishing unintentional delay
- ☐ Other: \_\_\_\_\_

**CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]**

I hereby certify that this correspondence is being:

- ☐ deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
- ☐ transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (703) 308-6916

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Date

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Signature

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Type or printed name of person signing certificate

Docket No.: 3170D-0003

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of

Sadao Nishibori *et al.*

U.S. Patent Application No. 09/843,919

Filed: April 30, 2001

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Confirmation No. 9911

Group Art Unit: 1771

Examiner: Jeremy R. Pierce

For: RESIN MOLDED ARTICLE HAVING A SPRING STRUCTURE AND METHOD OF  
PRODUCING THE RESIN MOLDED ARTICLE

**AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116**

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In response to the Final Office Action mailed December 14, 2007, the following amendments and remarks are respectfully submitted in connection with the above-identified application. This response is being filed with a petition to revive from unintentional abandonment.

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, in the application:

**Listing of Claims:**

1. (Previously presented) A resin molded article having a cushion structure comprising:  
a three-dimensional structure, said three-dimensional structure being formed of random loops or curls of filaments;

said filaments each consisting of a single body made of a mixture of a polyolefin resin and one selected from the group consisting of vinyl acetate resin, ethylene vinyl acetate copolymer or styrene butadiene styrene, said mixture being melted and kneaded;

a mixture ratio of said polyolefin resin to said vinyl acetate resin or said ethylene vinyl acetate copolymer is 70 to 97 w% to 3 to 30 w%, and a mixture ratio of said polyolefin resin to said styrene butadiene styrene is 50 to 97 w% to 3 to 50 w%; and

each [[said]] filaments— filament consisting of a single component structure [[of]] comprising a hollow or solid filaments filament [[in]] having a continuous or short filaments length, and which gather said hollow and solid or hollow continuous and/or short filaments gathering adjacent ones by at least partially [[of]] contacting, entwining portions thereof are fused and by being fused or bonded to one another, [[and]]

said three-dimensional structure further consisting of being configured so that:

a mixture ratio of said solid filaments to said hollow filaments is 0:100 to 50:50,  
wherein said three-dimensional structure has a low density portion and a high density portion in a direction of width thereof at predetermined intervals in a direction of its length in a single molded form, [[and]]

a bulk density of the low density portion is 0.005 to 0.03 g/cm<sup>3</sup>, [[and]]

a bulk density of the high density portion having bulk density higher than said low density portions and 0.08 g/cm<sup>3</sup> or lower, and

said article has [[a]] an essentially uniform thickness.

2. (Cancelled)

3. (Cancelled)



4. (Cancelled)
5. (Currently amended) The resin molded article according to claim 1, a mixture ratio of said polyolefin resin to said vinyl acetate resin or said ethylene vinyl acetate copolymer is 80 to 90 w% to 10<sub>to\_20</sub>w%.
6. (Cancelled)
7. (Cancelled)
8. (Cancelled)
9. (Cancelled)
10. (Currently amended) The resin molded article according to claim 1, wherein a mixture ratio of said polyolefin resin to said styrene ~~butadiene~~ butadiene styrene is 70 to 90 w% to 10 to 30 w%.
11. (Cancelled)
12. (Cancelled)
13. (Previously presented) The resin molded article according to claim 1, wherein said solid continuous filaments and/or short filaments have a diameter of 0.3 mm to 30 mm, and said hollow continuous filaments and/or short filaments have a diameter of 1.0 mm to 3.0 mm.
14. (Cancelled)
15. (Currently amended) The resin molded article according to claim 1, wherein said solid continuous filaments and/or short filaments have a diameter of 0.3 mm to 3.0 mm, and said hollow continuous filaments and/or short filaments have a diameter of 1.5 to 2.0 mm.

16. (Cancelled)
17. (Cancelled)
18. (Cancelled)
19. (Cancelled)
20. (Cancelled)
21. (Cancelled)
22. (Currently amended) The resin molded article according to claim 1, wherein said three-dimensional structure has a bulk density of 0.02 to 0.06g/cm<sup>3</sup>.
23. (Cancelled)
24. (Cancelled)
25. (Cancelled)
26. (Original) The resin molded article according to claim 5, wherein said three-dimensional structure has a bulk density of 0.02 to 0.06 g/cm<sup>3</sup>.
27. (Currently amended) The resin molded article according to claim 1, wherein said three-dimensional structure is a cushion material for seats of an automotive vehicle or a bed.
28. (Cancelled)
29. (Cancelled)
30. (Cancelled)

31. (Currently amended) The resin molded article according to claim 5, wherein said three-dimensional structure is a cushion material for seats of an automotive vehicle or a bed.
32. (Cancelled)
33. (Cancelled)
34. (Currently amended) The resin molded article according to claim 1, wherein said three-dimensional structure has a bulk density of 0.005 to 0.03 g/cm<sup>3</sup> at low density portions, and a bulk density of 0.03 to 0.08 g/cm<sup>3</sup> at high density portions.
35. (Cancelled)
36. (Cancelled)
37. (Cancelled)
38. (Original) The resin molded article according to claim 5, wherein said three-dimensional structure has a bulk density of 0.005 to 0.03 g/cm<sup>3</sup> at low density portions, and a bulk density of 0.03 to 0.08 g/cm<sup>3</sup> at high density portions.
39. (Currently amended) The resin molded article according to claim 1, wherein said three-dimensional structure has a bulk density of 0.008 to 0.03 g/cm<sup>3</sup> at low density portions, and a bulk density of 0.04 to 0.07 g/cm<sup>3</sup> at high density portions[.].
40. (Cancelled)
41. (Cancelled)
42. (Cancelled)
43. (Currently amended) The resin molded article according to claim 5, wherein said three-dimensional structure has a bulk density of 0.008 to 0.03 g/cm<sup>3</sup> at low density portions, and a

bulk density of 0.04 to 0.07 g/cm<sup>3</sup> at high density portions.

44. (Currently amended) The resin molded article according to claim 1, wherein said three-dimensional structure has a bulk density of 0.01 to ~~[[0.03]]~~ 0.03 g/cm<sup>3</sup> at low density portions, and a bulk density of 0.05 to 0.06 g/cm<sup>3</sup> at high density portions.

45. (Cancelled)

46. (Cancelled)

47. (Cancelled)

48. (Original) The resin molded article according to claim 5, wherein said three-dimensional structure has a bulk density of 0.01 to 0.03 g/cm<sup>3</sup> at low density portions, and a bulk density of 0.05 to 0.06 g/cm<sup>3</sup> at high density portions.

49. (Previously presented) The resin molded article according to claim 1, wherein said three-dimensional structure has a void ratio of 96 to 99 %, at said low density portions, and a void ratio of 91 to 97 % at said high density portions

50. (Currently amended) The resin molded article according to claim 1 wherein said three-dimensional structure has a void ratio of 97 to 99 % at said low density and a void ratio of preferably 92 to 96 % at said high density portions.

51. (Previously presented) The resin molded article according to claim 1 wherein said three-dimensional structure has a void ratio of 97 to 98 % at said low density portions, and a void ratio of 93 to 94 % at said high density portions.

52. (Cancelled)

53. (Cancelled)

54. (Cancelled)

55. (Cancelled)
56. (Cancelled)
57. (Original) The resin molded article according to claim 1, wherein outer surfaces of said hollow filaments are covered with solid filaments.
58. (Cancelled)
59. (Cancelled)
60. (Cancelled)
61. (Original) The resin molded article according to claim 5, wherein outer surfaces of said hollow filaments are covered with solid filaments.
62. (Previously presented) The resin molded article according to claim 1, wherein high density portions having an increased bulk density which each extend in a direction of width of said three-dimensional structure and are arranged at appropriate space intervals in a direction of length of said three-dimensional structure are formed by changing a take-off speed for taking off the extruded continuous filaments.
63. (Currently amended) A resin molded article having a cushion structure comprising:  
a three-dimensional structure, said three-dimensional structure comprising:  
a mixture of individual hollow and individual solid single component filaments each being made of [[a]] an essentially uniform blend of polyolefin resin and one selected from the group consisting of vinyl acetate resin, ethylene vinyl acetate copolymer or styrene butadiene butadiene styrene, the mixture of hollow and solid filaments being configured to at least partially contact, entwine and have portions fused and bonded to one another;  
a low density portion and a high density portion in a direction of width thereof at predetermined intervals in a direction of its length in a single molded form;  
a bulk density of the low density portion is about 0.005 to about 0.03 g/cm<sup>3</sup> and

a bulk density of the high density portion having bulk density higher than said low density portions and about  $0.08 \text{ g/cm}^3$  or lower.

REMARKS

This is in full and timely response to the above-identified Office Action. The above listing of the claims supersedes any previous listing. Favorable reexamination and reconsideration are respectfully requested in view of the preceding amendments and the following remarks.

Entry of the Amendments Requested

It is submitted that all of the amendments which are proposed above are directed to resolving the § 112 issues and not to limiting the claimed structure in a manner that would differentiate structure and require farther search or consideration as to scope. Entry of these amendments is therefore solicited irrespective of the fact that this response is being made in response to a Final Office Action.

Claim Status/Amendments

Claim 1 has been amended to clarify the claimed subject matter with respect to the art which is applied. Independent claim 63 has also been amended to clarify the subject matter for which patent protection is sought. Support for the amendments is found in the specification taken as a whole.

Rejections under 35 USC § 112

The rejection of:

- 1) claims 1, 5, 10, 13, 15, 22, 26-27, 31, 34, 38-39, 43 44, 48-51, 57, 61-63 under 35 USC 112, first paragraph, as failing to comply with the written description requirement; and
- 2) claims 1, 5, 10, 13, 15, 22, 26-27, 31, 34, 38-39, 43 44, 48-51, 57, 61-63 under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention; and both traversed.

In this response, the term "single component" is avoided to avoid the confusion between a multi-constituent (single) body and a mono-constituent (single) body.

Rejections under 35 USC § 103

The rejections of:

- 1) Claims 1, 5, 13, 15, 22, 26-27, 31, 34, 38-39, 43-44, 48, 57, 61-63 under 35 U.S.C. 103(a) as being unpatentable over Martin et al, U.S. Patent No. 5,972,463 (hereinafter

Martin) in view of Kargol et al, U.S. patent No. 5,492,662 (hereinafter Kargol) for the reasons set forth in the previous action, and further in view of Hazelton et al, U.S. Patent No. 4,804,577 (hereinafter Hazelton); and

- 2) Claims 7, 10, 49-51 under 35 U.S.C. 103(a) as being unpatentable over Martin in view of Kargol and Hazelton as applied to claims above, and further in view of Insley et al, U.S. Patent No. 5,451,437 as set forth in the previous action;

are both traversed.

In these rejections it is advanced that Martin differs from the claimed invention because Martin employs fibers which preferentially have a sheath/core or side-by-side configuration, while the instant claims recite a "single component" structure, which is interpreted as a blend of polymers. However, as note above, the confusion that accompanies the use of the term 'component' is removed by the proposed claim amendments.

It is submitted that the claimed structure should be interpreted as single body having two resin constituents. While Martin very briefly discloses that the fibers can solid, hollow, or porous and straight or helical, spiral, looped, coiled, sinuous, undulating, or convoluted, there is nothing to suggest that the filaments should not be one of the side-by-side (or side-side) bicomponent filaments or, preferably, sheath-core (or sheath/core) bicomponent filaments. Clearly this is the main thrust of this patent and will be understood by the reader of ordinary skill as being such.

Hazelton is asserted as teaching that nonwoven fabrics with improved extensibility, texture and hand can be formed by employing fibers which are a blend of a polymer such as a polyolefin or a styrene butadiene styrene with another polymer such as a vinyl acetate polymer. See abstract and col. 2, line 45 — col. 3, line 51. Therefore, it is advanced in this rejection that it would have been obvious to have employed fibers having a blended structure as the multi constituent fibers of Martin, motivated by the teaching of Hazelton, that using the blended fibers improved the extensibility, texture and hand of the resulting fabric.

However, it is submitted that it is conclusatory to assert that the extensibility, texture and hand of the resulting fabric will be improved in the manner advanced above. Some support for this conclusion is deemed necessary otherwise it amounts to nothing more than an unsupported supposition.

It is noted that this rejection is silent as to the role that the teachings of the Kargol et al.



(hereinafter Kargol) reference play. The disposition of the fibers in Kargol is such as to effect a change in the desired density, while Kargol does this, this does not necessarily render it obvious to use this technique in Martin. Martin is directed to forming floor matting, cushioning (presumably for floors – note the very limited disclosure pertaining to this cushioning aspect of the Martin product) and abrasive articles.

Accordingly, a change in density in floor matting would seem to be amount to a drawback and would tend to be avoided. As to abrasive articles, the same would seem to hold. Why bother with deliberately changing the density of the article without some reason to consider the same?

This would seem to invite unwanted uneven wearing during its use. It would therefore seem to be reason found in Martin not to use the change in density that is suggested in Martin.

A further problem that is encountered with the proposed combination of Martin and Kargol is that with Kargol, at least a portion of the polymeric fibers which comprise the body is required to be coated with a fusible polymeric material for creating bonds between the polymeric fibers (see column 3, Lines 51 to 53). This must be compared with the disclosure of Martin which suggests that the filaments are self-bonded to one another by heating an aggregation thereof – see column 4, lines 30-39.

Thus, the teachings of these two references tend to clash in that one indicates a bonding agent is necessary while the other is not. Indeed, it is not seen that the hypothetical person of ordinary skill would bother with the teachings of Kargol once having considered the simpler connection technique used in Martin. Further the difference in the densities may hinge on the use or non-use of the bonding agent that appears necessary in the Kargol arrangement.

There is therefore, no reason to complicate issues and increase the cost of production required to add the additionally bonding material prior heating. This taken with the lack of any requirement in Martin that a deliberate variance in density be incorporated into the product to which Martin is directed, attenuate any chance of a ready combination of Martin and Kargol being entertained by the hypothetical person of ordinary skill.

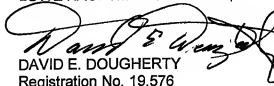
As to the issue raised by the examiner that the embossing that is disclosed in Martin et al. being such as affect bulk density, an electronic review of this reference has revealed an absence of any disclosure that embossing in fact has any affects on bulk density and thus request reconsideration of this position.

Conclusion

None of the proposed combinations are such as to lead to the claimed subject matter. Therefore, it respectfully submitted that the claims as they have been amended/newly added, are allowable over the art which has been applied in this Office Action. Favorable reconsideration and allowance of this application are courteously solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

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